



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,805	11/08/2001	Kalle Asikainen	915-005.007	2013
4955	7590	04/07/2005	EXAMINER	
WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468			RAMAKRISHNAIAH, MELUR	
			ART UNIT	PAPER NUMBER
			2643	
DATE MAILED: 04/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/021,805	ASIKAINEN, KALLE	
	Examiner	Art Unit	
	Melur Ramakrishnaiah	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3-30-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-8, 10-18, are rejected under 35 U.S.C 102(e) as being anticipated by Lau et al. (US PAT: 6,122,506, filed 5-4-1998, hereinafter Lau).

Regarding claim 1, Lau discloses a synthesizer arrangement for generating two or more signals simultaneously, the arrangement comprising as input a frequency reference signal generated by a stable oscillator means, wherein the arrangement further comprises: a first synthesizer means in (114, fig. 2) arranged to generate a first signal from the frequency reference signal, as their output the first signal, and as their input a first control signal controlling the generation, on the basis of which the first signal is changed independently, second synthesizer (18, fig. 1) means arranged to independently generate a second signal from a frequency reference signal, as their output and a second signal, and as their input a second control signal controlling the generation, on the basis of which the second signal is changed independently (col. 2, line 21 –col. 8, line 15 and figs. 1-2).

Regarding claim 8, Lau further discloses a transceiver system for a multimode device comprising: a first part comprising a first antenna (112, fig. 2) and an RF means

Art Unit: 2643

(114, fig. 2) for receiving and/or transmitting signals, as well as first digital processing means (116, fig. 2) for processing the signals and generating a first control signal, a second part comprising a second antenna (122, fig. 2) and a second RF means (12/14, fig. 1) for receiving and/or transmitting signals, as well as second digital processing means (124, fig. 2) for processing the signals and generating a second control signal, and stable crystal oscillator means (62, fig. 1) for generating a frequency reference signal, wherein for generating two or more signals simultaneously, the transceiver system also comprises: a first synthesizer means in (114, fig. 2) arranged to independently generate a first signal from the frequency reference signal, as their output the first signal, and as their input a first control signal controlling the generation, on the basis of which the first signal is independently modified, wherein the first signal is coupled to the first RF means (114 fig. 2), and second synthesizer means (18, fig. 1) arranged to independently generate a second signal from the frequency reference signal as their output the second signal, and as their input a second control signal controlling the generation , on the basis of which the first signal is changed independently, wherein the second signal is coupled to the second RF means (col. 2, line 21 –col. 8, line 15 and figs. 1-2).

Regarding claim 13, Lau further discloses a method of generating two or more signals, in which method: a stable crystal oscillator (62, fig. 1) are used to generate a frequency reference signal, wherein method comprises the steps of: inputting the frequency reference signal in first synthesizer means for generating a first signal from the frequency reference signal in the output, and simultaneously inputting in them a first

control signal for controlling the generation, on the basis of which the first signal is corrected independently, and inputting the frequency reference signal simultaneously also in second synthesizer means (18, fig. 1) for generating a second signal from the frequency reference signal in the output, and simultaneously inputting in them a separate second control signal for controlling the generation, on the basis of which the second signal is corrected independently (col. 2, line 21 –col. 8, line 15 and figs. 1-2).

Regarding claims 3-7, 10-18, Lau further teaches the following: first signal is coupled to a first RX receiver in (113, fig. 2) which is arranged for reception of first RF signals, and the second signal is coupled to a second RX receiver in (123, fig. 2) which is arranged to reception of RF signals, first signal is coupled to a first RF transmitter in (113, fig. 2) which is arranged to the transmission of RF signals, wherein the first RX receiver and the second RX receiver are arranged in the same multimode radio telephone device (fig. 2) which also comprises a first antenna coupled to the first RX receiver and second antenna coupled to the second RX receiver, the first RX receiver is arranged to receive RF signals transmitted by a mobile communication network, the signals containing a synchronization signal, on the basis of which the first control signal is generated, and that the second RX receiver is arranged to receive second RF signals transmitted by a satellite system, on the basis of which the second control signal is generated turning the RX receiver, wherein first RF means comprises mixing means in (114, fig. 2) whose input is the first signal either as such or in a processed format, the first RF means comprising third synthesizer means in (114, fig. 2) for processing the first signal, and the second RF means comprises mixing means (24, fig. 1) whose input is

Art Unit: 2643

the second signal either as such or in a processed format, the second RF means comprising a forth synthesizer (32, fig. 1) for processing the second signal, the first part (113, fig. 2) is an MS part to receive signals transmitted by a mobile communication network, wherein the signals comprises synchronization signal for frequency correction, the synchronization signal is being used as a basis for forming the first control signal (col. 3 lines 37-41), second part is a GPS part (123, fig. 2) arranged to receive signals transmitted by a satellite system, wherein the signals contain information for positioning of a radio telephone device, and wherein the second control signal is a arranged to be formed on the basis of the received satellite signal (col. 2, line 21 –col. 8, line 15 and figs. 1-2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau in view of Gillig (US PAT: 5,604,468).

Lau differs from claims 2, 9, 14 in that although he discloses first and second frequency synthesizers and associated control and usage as shown in figs 1-2; he does not teach the following: a digital fractional-N frequency divider and sigma-delta calculation means for use with frequency synthesizers.

However, Gillig discloses frequency synthesizer which teaches the following: a digital fractional-N frequency divider and sigma-delta calculation means for use with frequency synthesizers (fig. 6, col. 5, line 39 – col. 6, line 55).

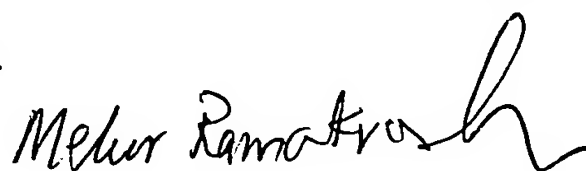
Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Lau's system to provide for the following: a digital fractional-N frequency divider and sigma-delta calculation means for use with frequency synthesizers as this arrangement would facilitate temperature compensated frequency oscillator using a PLL frequency synthesizer which achieves more accurate, linear and repeatable temperature compensation with more simplified circuitry as taught by Gillig (col. 2 lines 1-16), thus facilitating more accurate frequency synthesis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (703) 305-1461. The examiner can normally be reached on M-F 6:30-4:00; every other F Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703)305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melur Ramakrishnaiah
Primary Examiner
Art Unit 2643